

Claims

[c1] 1. A stator core formed by laminated strip-shaped straight cores including a plurality of teeth portions comprising:
bent portions being provided with V-shaped notches, which define V-shaped gaps opened to one direction and interposing between each of the teeth portions, the straight cores being formed into an annular configuration by bending the bent portions in a direction so as to close the V-shaped notches;
circular holes being provided at the bent portions so as to form a series of gaps between each of the teeth portions; and
deformation preventing portions formed on the bent portions by cutting off a part of a pair of oblique lines defining the V-shaped notches toward the circular holes so as to expand the gaps of the V-shaped notches and the circular holes for preventing the bent portions from deforming by stress of bending process.

[c2] 2. A stator core comprising:
strip-shaped straight cores including a plurality of teeth portions, bent portions being provided with V-shaped

notches and interposing between each of the teeth portions; and

segment core elements having plural independent segment cores formed by cutting off each of teeth portions; wherein the stator core is made by a steps of, laminating the straight cores and the segment cores, bending the bent portions in a direction so as to close the V-shaped notches to form annular stator core.

[c3] 3. A stator core according to claim 2, wherein, deformation preventing portions formed on the bent portions by cutting off a part of a pair of oblique lines defining the V-shaped notches toward the circular holes so as to expand a gap formed within the V-shaped notches for preventing the bent portions from deforming by stress of bending process.

[c4] 4. An electric motor comprising:
a stator; and
a rotor including a magnetic material facing to the stator core in radial direction;
wherein the stator includes a stator core formed by strip-shaped straight cores having a plurality of teeth portions, bent portions being provided with V-shaped notches and interposing between each of the teeth portions and bending the bent portions in a direction so as to close the V-shaped notches to form annular stator

core, circular holes being provided in the bent portions in a manner that the circular holes are continuously formed with tip portions of each of the V-shaped notches and deformation preventing portions formed on the bent portions by cutting off a part of a pair of oblique lines defining the V-shaped notches toward the circular holes so as to expand the gaps of the V-shaped notches and the circular holes for preventing the bent portions from deforming by stress of bending process.

[c5] 5. An electric motor comprising:

a stator; and

a rotor including a magnetic material facing to the stator core in radial direction;

wherein the stator includes a stator core formed by strip-shaped straight cores having a plurality of teeth portions, bent portions being provided with V-shaped notches and interposing between each of the teeth portions and bending the bent portions in a direction so as to close the V-shaped notches to form annular stator core, circular holes being provided in the bent portions in a manner that the circular holes are continuously formed with tip portions of each of the V-shaped notches and deformation preventing portions formed on the bent portions by cutting off a part of a pair of oblique lines defining the V-shaped notches toward the

circular holes so as to expand the gaps of the V-shaped notches and the circular holes for preventing the bent portions from deforming by stress of bending process; and

wherein segment core elements having plural independent segment cores formed by cutting off each of teeth portions are alternatively laminated with the straight cores so as to form a plurality of slits within the stator core.

[c6] 6. A method of manufacture for a stator core comprising:

punching laminated silicon steel sheets to form straight cores including a plurality of teeth portions connected with each other via bent portions having V-shaped notches and circular holes continuously formed with tip portions of each of the V-shaped notches and deformation preventing portions formed on the bent portions by cutting off a part of a pair of oblique lines defining the V-shaped notches toward the circular holes so as to expand the gaps of the V-shaped notches and the circular holes; and

bending the bent portions in a direction so as to close the V-shaped notches and connecting both end portions of the straight core so as to form annular stator core; wherein the deformation preventing portions prevent the

bent portions from deforming by stress of bending process.

[c7] 7. A method of manufacture for a stator core formed by strip-shaped straight cores and segment core elements comprising:

punching laminated silicon steel sheets to form the straight cores including a plurality of teeth portions connected with each other via bent portions having V-shaped notches and circular holes continuously formed with tip portions of each of the V-shaped notches and deformation preventing portions formed on the bent portions by cutting off a part of a pair of oblique lines defining the V-shaped notches toward the circular holes so as to expand the gaps of the V-shaped notches and the circular holes;

cutting off some of the straight cores and forming the segment core elements having plural independent segment cores;

laminating the straight cores and the segment core elements alternatively so as to form a plurality of slits within the stator core; and

bending the bent portions in a direction so as to close the V-shaped notches and connecting both end portions of the straight core so as to form annular stator core.